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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

QM12/0305

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ART UNIT

PAPER NUMBER

3765

DATE MAILED:

03/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/605,979

Applicant(s)
Wu et al

Examiner
Amy B. Vanatta

Group Art Unit
3765



☒ Responsive to communication(s) filed on Jun 29, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-34 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-34 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Reissue Application

1. The reissue oath/declaration filed with this application is defective because one of the errors which is relied upon to support the reissue application is not an error upon which a reissue can be based. See 37 CFR 1.175(a)(1) and MPEP § 1414.

One of the errors relied upon is not correctable by reissue because the polymeric film claims were canceled during the prosecution of the original patent, and applicant elected to prosecute only claims directed to the glove. 35 U.S.C. 251 cannot be used to circumvent other statutory requirements, e.g. the codependency requirement of 35 U.S.C. 120 for filing divisional or continuation applications.

2. Claims 1-34 are rejected as being based upon a defective reissue declaration under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

The nature of the defect(s) in the declaration is set forth in the discussion above in this Office action.

3. Claims 23-31 are rejected under 35 U.S.C. 251 as being an improper recapture of claimed subject matter deliberately canceled in the application for the patent upon which the present reissue is based. As stated in *Ball Corp. v. United States*, 221 USPQ 289, 295 (Fed. Cir. 1984):

The recapture rule bars the patentee from acquiring, through reissue, claims that are of the same or broader scope than those claims that were canceled from the original application.

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Applicant canceled claims 14-16, which were directed to a polymeric film. The reissue polymeric film claims are broader than the canceled polymeric film claims in the '011 application with respect to the limitation of the film having "*a three dimensional network*" of chopped fibers. This limitation was added to claim 14 in the '011 application in order to define over the prior art rejection, however this limitation is not included in the reissue polymeric film claim 23. The reissue film claim 23 is narrower another aspect, since claim 23 recites the chopped fibers as being "*randomly*" dispersed within the film. Where a reissue claim broadens and narrows, where both are related to prior art rejections, as is the case here, recapture applies.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 16-18, 23-25, and 31-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Bray et al (6,048,379).

Bray et al disclose a glove (col. 7, line 10) made of at least one polymeric layer, wherein the layer includes chopped fibers (col. 9, line 31) randomly dispersed therein as in claim 16. Bray et al disclose that the fibers reinforce and add strength to the polymeric layer. The fibers

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inherently function to create cut and puncture resistance in the glove. The polymeric material forms a film to the extent recited in claims 23 and 32. Bray discloses that an article (e.g. a glove) can be made of the composition, as recited in claim 32. Bray teaches that the polymeric layer may be made of polyurea (col. 11, last item in Table 2), thus meeting the limitation of claims 17, 24, and 33. The chopped fibers are disclosed as chopped steel fibers (col. 9, line 31), as in claims 18, 25, and 34. Bray discloses the fiber length as 0.125 inches (col. 9, lines 35), which converts to about 3.17mm. This value meets the limitation of claim 31.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 23, 24, 25, 32, 33, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Dolowy, Jr. et al (4,259,112).

Dolowy, Jr. et al disclose a polymeric film having at least one polymeric layer which includes chopped fibers (col. 2, line 32-38) randomly dispersed therein (col. 2, lines 6-7).

Dolowy discloses that the fibers reinforce and add strength to the polymeric layer. The fibers inherently function to create cut and puncture resistance. Dolowy discloses that the film is stacked and further processed (col. 3, lines 17-68) to form a composite panel. This composite panel is an "article" which is formed from a polymeric film as in claim 32. Dolowy discloses that

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the polymeric material may be polystyrene and the reinforcing fiber may be chopped steel as in claims 24-25 and 33-34.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 19 and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bray et al (6,048,379).

Regarding claim 19, Bray et al disclose a glove as claimed except that the thickness of the glove palm is not disclosed. It is within the routine skill in the art to choose a glove thickness, including a thickness of the palm region, as is optimal for the intended use of the glove, depending upon the level of flexibility, strength, and sense of touch required for the intended use of the glove. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the glove of Bray et al having a single layer palm thickness within the claimed range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

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Regarding claim 26, Bray et al disclose the polymeric matrix as having chopped fibers dispersed therein for reinforcement, however Bray does not disclose that the fibers are made of particle filled polymer. Such fibers are conventionally used in the art for providing strength and reinforcement. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use particle filled polymeric fibers for the fibers in the polymeric matrix of Bray et al, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125.

Regarding claim 27, Bray et al teach that the weight percent of fibers added to the polymer is between 10% and 20% of the composite weight (col. 2, line 57). This range falls within the claimed range of 2-20% recited in claim 27. Additionally, Bray et al teach that the weight percent of fibers may have a value of, for example, 10% (col. 2, line 62); this value falls within the claimed range of 2-20% as recited in claim 27. Bray does not disclose the value of the increase in cut resistance which is provided by this weight percent of fibers, although it appears that it would inherently fall within the claimed range of at least 20% since the claimed materials and weight percents are disclosed. The value of the increase in cut resistance is dependent upon the types of fiber and polymer selected and the weight percent of each which is used. One having routine skill in the art would recognize that the fibers and polymers and the ratios thereof may be varied and chosen according to the protection and reinforcement level desired. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select

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the materials for the glove of Bray et al such that the polymeric composite is provided with a cut resistance which is increased by at least 20 percent, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 28-29, Bray does disclose a tensile strength of at least 17 MPa or at least 24 MPa as claimed. See Table 2, in which such values are disclosed. For example, the tensile strength for polyurea (col.11) is 8,000 psi, which converts to 55.16 MPa. Bray also discloses an elongation of at least 650 percent and at least 750 percent as claimed (see Table 2, which discloses an elongation of 800 %). Bray does not disclose values for the 500% modulus of the polymeric composite. However, it would require only routine skill in the art to choose the materials, thicknesses, and other parameters of the composite such that the properties of the composite (tensile strength, elongation, modulus) are appropriate for the intended use. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to design the composite of Bray et al such that the modulus is within the claimed ranges of less than about 5.5 or less than about 7 MPa, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 30, Bray et al do not disclose the denier of the fibers which are dispersed in the polymer, however one of routine skill in the art would recognize that the fiber denier should be chosen as appropriate for the desired strength, thickness, etc. of the composite and articles

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made therefrom. It would have been obvious to one having ordinary skill in the art at the time the invention was made to chose fibers having a denier within the claimed range for use in the composite of Bray, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

10. Claims 24-25 and 33-34 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Dolowy, Jr. et al (4,259,112).

Dolowy, Jr. et al disclose a polymeric film and article made therefrom having at least one polymeric layer which includes chopped fibers randomly dispersed therein. Dolowy teaches that the polymeric material may be polystyrene, which appears to meet the structure of styrene block copolymers recited in claims 24 and 33. Alternatively, in the case that the claimed styrene block copolymers differ from polystyrene, it is noted that the polymers recited in claims 23 and 33 are conventionally used for polymeric matrixes. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use such polymers for the polymer in the film of Dolowy, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125.

Dolowy discloses the use of chopped steel as the reinforcing material in the polymeric layer. This material appears to meet the claimed limitation of "chopped steel fibers" recited in claims 25 and 34. Alternatively, in the case that such chopped steel wire is not considered "fiber",

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it is noted that the chopped fibers recited in claims 25 and 34 are conventionally used for reinforcement and are regarded as equivalent to the chopped boron, alumina, and graphite fibers taught by Dolowy. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use fiber as recited in claims 25 and 34 as the chopped fiber in the polymeric layer of Dolowy, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125.

11. Claims 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dolowy, Jr. et al (4,259,112).

Regarding claim 26, Dolowy Jr. et al disclose the polymeric matrix as having chopped fibers dispersed therein for reinforcement, however Dolowy does not disclose that the fibers are made of particle filled polymer. Such fibers are conventionally used in the art for providing strength and reinforcement. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use particle filled polymeric fibers for the fibers in the polymeric matrix of Dolowy et al, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125.

Regarding claim 27, Dolowy et al teach that the weight percent of whiskers added to the polymer in Example 1 is 20% by volume. Dolowy does not disclose the weight percent of fibers which are to be used in the chopped fiber embodiment. One having routine skill in the art would

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recognize that the percent fiber should be chosen according to the desired level of reinforcement, strength, and other desired properties of the composite. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use about 2 to 20 weight percent of fibers in the composite of Dolowy, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Dolowy does not disclose the value of the increase in cut resistance which is provided by the fibers. The value of the increase in cut resistance is dependent upon the types of fiber and polymer selected and the weight percent of each which is used. One having routine skill in the art would recognize that the fibers and polymers and the ratios thereof may be varied and chosen according to the strength and reinforcement level desired. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the materials and ratios thereof for the composite of Dolowy et al such that the polymeric composite is provided with a cut resistance which is increased by at least 20 percent, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 28-29, it would require only routine skill in the art to choose the materials, ratios, thickness, and other parameters of the polymeric film such that the properties of the composite (tensile strength, elongation, and modulus) are appropriate for the intended use of the composite. It is noted that although Dolowy does not disclose tensile strength, elongation,

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and modulus for the polymer having chopped fibers, the value of tensile strength for the polymer having whiskers in Example 1 is shown in the table (col. 5) as 27,000 psi, which is at least 17 or 24 MPa, as recited in claims 28-29. Moreover, regarding claims 30-31, one of routine skill in the art would recognize that the fiber denier and length should be chosen as appropriate for the desired strength, thickness, and reinforcement of the composite. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the composite of Dolowy such that the tensile strength, elongation, modulus, and fiber denier and length are within the claimed ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

12. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darras et al (WO 92/20244) in view of Dolowy, Jr. et al (4,259,112).

Darras et al (WO 92/20244) disclose a glove including at least three dip formed elastomeric layers (14, 16, and 18), wherein the middle layer contains whiskers or particulates (pg 4, line 10-12) randomly dispersed throughout for enhancing the glove's cut resistance. The material of the glove forms a polymeric film. Darras does not disclose the use of chopped fibers within the polymeric matrix, however chopped fibers are known to be used to reinforce polymeric matrices, as taught by Dolowy, Jr et al. Dolowy discloses a polymeric matrix which is reinforced or strengthened due to reinforcing material which is randomly dispersed within the matrix. Dolowy discloses that the reinforcing material may be whiskers, particles, or chopped fibers (col.

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2, lines 32-37). Thus, Dolowy suggests that whiskers, particles, and chopped fibers are equivalent means of reinforcing polymers. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use chopped fibers in place of the whiskers or particles of Darras to reinforce the polymeric matrix since Dolowy discloses the equivalence of chopped fibers and whiskers or particles for their use in the polymeric composite art and the selection of any of these known equivalents to reinforce the polymeric matrix of Darras would be within the level of ordinary skill in the art. Additionally, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use chopped fibers in place of the whiskers or particles of Darras to reinforce the polymeric matrix since Dolowy specifically teaches the use of chopped fibers to reinforce a polymeric matrix, and it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claims 2-4, 18, 25-26, and 34, such chopped fiber materials are known to be used for reinforcement. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the fiber materials recited in claims 2-4, 18, 25-26, and 34 as the chopped fiber in the polymeric layer of Darras modified in view of Dolowy, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125.

Darras discloses a variety of materials which can be used for the polymeric layers, including latex, which meets claims 5-6, 17, 24, and 33. Darras does not disclose use of the

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polymeric mixtures recited in claims 7 and 9. Such polymeric mixtures are well known in the art, however, and are conventionally used for polymer layers or films. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polymeric mixtures recited in claims 7 and 9 as the polymeric matrix of Darras modified in view of Dolowy, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125.

Regarding claims 8, 10, and 27, Darras does not disclose the claimed weight percent of the reinforcing material which is added to the polymer. One having routine skill in the art would recognize that the percent fiber should be chosen according to the desired level of reinforcement, strength, and other desired properties of the composite. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use about 2 to 20 weight percent of fibers in the composite of Darras modified in view of Dolowy, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Darras and Dolowy do not disclose the value of the increase in cut resistance which is provided by the fibers or other reinforcing material. The value of the increase in cut resistance is dependent upon the types of fiber and polymer selected and the weight percent of each which is used. One having routine skill in the art would recognize that the fibers and polymers and the ratios thereof may be varied and chosen according to the strength and reinforcement level desired. It would

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have been obvious to one having ordinary skill in the art at the time the invention was made to select the materials and ratios thereof for the composite of Darras modified in view of Dolowy such that the polymeric composite is provided with a cut resistance which is increased by at least 20 percent, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Darras discloses thickness values for the glove similar to those claimed. Darras does not, however, disclose specific thicknesses for specific regions of the gloves (such as palm, finger, and cuff thicknesses) as recited in claims 11 and 19. It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the glove of Darras modified in view of Dolowy as having palm, finger, and cuff region thicknesses within the claimed ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

The reinforcing material of Darras is disclosed as being 0.0625 to 0.125 inches (1.56 mm to 3.12 mm) in length, thus meeting the length recitations of claims 14, 21, and 31.

Regarding claims 12, 13, 28, and 29, it would require only routine skill in the art to choose the materials, ratios, thicknesses, and other parameters of the glove or film such that the properties of the glove or film (tensile strength, elongation, modulus) are appropriate for the intended use of the glove or film. Moreover, regarding claims 15, 21, 22, and 30, one of routine skill in the art would recognize that the fiber thickness and denier should be chosen as appropriate

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for the desired strength, thickness, etc. of the glove or film. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the glove or film of Darras modified in view of Dolowy such that the tensile strength, elongation, modulus, and fiber thickness and denier are within the claimed ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

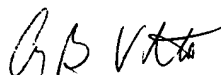
Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references cited disclose polymeric composites similar to that of the claimed invention.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy Vanatta at telephone number (703) 308-2939. The examiner can normally be reached Monday-Thursday from 8:30 to 6:00 p.m. and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert, can be reached at (703)305-1025.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861. Facsimile correspondence for this application should be sent to (703) 305-3579 or (703) 305-3580.


AMY B. VANATTA
PRIMARY EXAMINER
ART UNIT 3741

abv

January 4, 2000